FULLER (EUGENE)

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[Reprinted from the JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES
for April, 1896.]

INTERESTING POINTS CONNECTED WITH A NEPHRECTOMY SECONDARY TO A NEPHROTOMY.*

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THE following case was referred to me as one of probable prostatic hypertrophy. As a cure for all his ills he had been urged to accept castration, but, happily for him, he had refused to follow that advice. His subjective symptoms so closely simulated those frequently produced by prostatic senile hypertrophy that he had run the gantlet of numerous metropolitan hospitals without apparently awakening in any surgical mind a suspicion that his case was one of kidney, pure and simple.

In effecting a cure in this instance I was forcibly struck by the advantages which, as Israel has pointed out, pertain to a nephrectomy with temporary drainage, followed after a short interval by an extirpation of the organ. By his statistics Israel has shown that a suppurative and distended kidney can in this manner be removed with less mortality than by a primary nephrectomy. The reasons for this decrease in the death-rate in such cases, it seems to me, are chiefly threefold and capable of being grouped under the following headings: First, if the renal pelvis is thoroughly drained, and if all collections of pus situated in the renal substance are made to connect with it, the circumference of the kidney will be greatly reduced in size, and consequently the organ can be removed more easily and through a smaller incision than otherwise. Second, as a result of the nephrotomy and the disturbance to which it necessarily subjects the kidney, sufficient plastic lymph is thrown out about that organ and along the track of the incision to, in large measure, protect the system on the occasion of a subsequent nephrectomy from the absorption of the bacteria and purulent material necessarily associated with a suppurative pyelitis. Third, after a nephrotomy and drainage through the loin, the functional status of the remaining kidney can be accurately studied and ascertained. Consequently, of course, a secondary nephrectomy would naturally be undertaken only in such instances as show the remaining kidney to be fairly sound.

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* Read at the February, 1896, meeting of the Genito-Urinary Section of the New York Academy of Medicine.

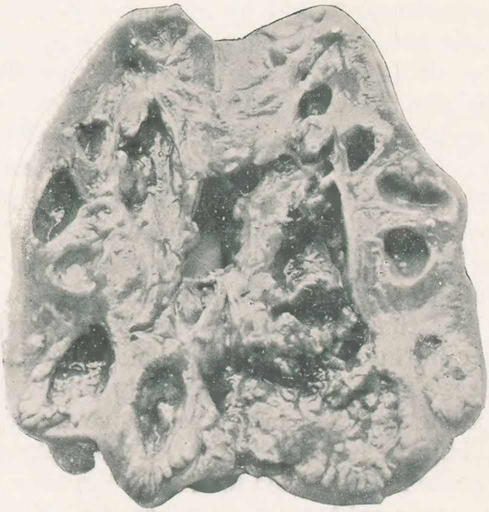
The preceding surgical method is advocated for cases in which the suppurative process is confined to the kidney itself. If the perirenal structures have become involved, then the reasons just enumerated in favor of a nephrectomy secondary to a nephrotomy may no longer exist, and a primary nephrectomy may be preferable. The following is a history of the case.

Mr. T., fifty-nine years old, married, had enjoyed good health until eight years ago. At that time he was seized, without any apparent previous history of difficulty in urination, with complete retention. He then entered a hospital with a very distended bladder. A catheter was introduced and his urine drawn off. He had considerable fever following this attack. He remained in the hospital six weeks. After catheterization for a short interval his bladder resumed its function. Since that attack, however, he had never been really well, and his act of urination had always been uncertain. Sometimes for a considerable interval, especially in hot weather, he had been able to urinate satisfactorily and at proper intervals; but in cold, damp weather, or after any overexertion, the urinary act would become urgent and his stream small, and then if he did not speedily take to his bed retention would result. At such times also he had been subject to chills and fever. When seized by a severe attack he had generally entered a hospital. His urethra had been stretched with sounds many times, and his bladder had been frequently searched and washed. All such treatment, however, had either been barren as regards results, or else had aggravated his symptoms. When I first saw him, about four months ago, he was suffering from what he considered a mild one of his attacks. His temperature was between 100° and 101°. He urinated with great difficulty, and there existed considerable tenesmus. His urine was purulent, somewhat offensive to the smell, acid, and albuminous to the extent of one per cent by weight. It contained no casts, no bladder epithelia, and no typical renal epithelia, but much granular material and detritus. The finger in the rectum showed nothing abnormal aside from a rather rigid condition of the prostatic body and of the tissues constituting the vesical neck, but with the history of frequent instrumentation for many years such a feel, it seemed to me, would naturally be expected. I then had him urinate, and after the completion of the act I slipped in a catheter, only to find the bladder completely empty. A further search of the urethra and bladder failed also to reveal any disease aside, perhaps, from a moderate degree of vesical atony. On abdominal palpation I found much muscular rigidity, especially upon the right side. I administered chloroform, and even under complete anæsthesia sufficient rigidity persisted on the right

side to prevent my feeling the kidney. On the left side, however, everything was relaxed and the kidney appeared normal. Although from my examination I felt quite positive that his trouble lay in the right kidney, still I had determined to make use of the cystoscope after a short interval in order to confirm the diagnosis as far as possible. My manipulations, however, had so aggravated his condition that I decided to cut down upon the right kidney without any delay. The patient at the time of this operation was a physical wreck, and his outlook seemed far from promising. I made a transverse cut in the loin and exposed the kidney, which was as large as a cocoanut. I incised it and let out a great quantity of foul pus. After the pus had been evacuated and the cavity irrigated, I introduced my finger into the pelvis and discovered a calculus somewhat smaller than a hazelnut, consisting of a uric-acid nucleus covered with phosphatic deposits. This I removed. The kidney to the feel seemed to be wholly disorganized. Owing to the wretched condition of the patient I should not have dared to remove it at that time even had I been so inclined. Two parallel drainage-tubes were inserted into the kidney and the wound was packed with gauze. The gauze was gradually removed, and at the end of a week nothing was left in it except one kidney drainage-tube. His condition improved considerably after the nephrotomy, and at the end of two weeks I determined to remove the organ, which I felt would otherwise always exist as a purulent focus. Without any fresh cut, by simply breaking down the edges of the wound, I gradually worked my way down to the kidney and peeled it out of its nidus. In doing this I found my hand and wrist quite cramped by the firm, hard walls of the cut and of the tissues about the kidney. At the first operation the tissues had been observed to be very soft, and then the kidney was somewhat movable. In fact, since the first operation the margin of the wound and the tissues about the kidney had been packed with plastic lymph. In a very short time, however, I was able to pop, as it were, the kidney out of its position and to bring it outside the loin. The pedicle was then tied and the organ removed. This secondary nephrectomy occupied fourteen minutes. There was no shock at all after the operation. Since the removal of the kidney the urine has been clear and normally voided, and the patient has improved wonderfully. The kidney at the time of its removal was about three fourths the normal size, and, as the section through its substance shows, practically none of its renal secreting tissue remained. The section also shows numerous cavities which mark the site of former abscesses, and about several of these cavities are whitish masses which to the naked eye might suggest some form of new growth.

Such masses are, however, made up of coagulation necrosis. The following is a histological report of the case made by Dr. Henry T. Brooks, of the Post-Graduate Hospital:

Kidney presents a number (5–6) of excavations of variable size (see specimen), occupying the greater portion of the space normally taken up by the pyramids. Commencing at a point corresponding to the bases of the pyramids, the remaining kidney substance extends uninterruptedly to the capsule. This portion of the organ varies in thickness from one fourth to three fourths of an inch, is glistening, yellowish-white in color, and firm, dense, and resistant, except in that part directly encroaching upon the cavities, which is soft in consistence and of a decidedly yellow color.



Dr. Fuller's specimen of disorganized kidney.

Microscopical examination of sections made from this tissue and extending through its whole thickness—from capsule to cavity margin—shows almost complete obliteration of normal kidney structure and replacement by more or less dense bands of fibrous connective tissue and small round cells. In the neighborhood of the capsule, and for some distance inward toward the pelvis, pure fibrous tissue appears to be the only constituent. As the walls of the cavity are approached, the fibrous tissue becomes less and less densely arranged—being more or less infiltrated with small round cells—until the margin of the cavities is reached, where the structure is almost wholly small round cells imbedded in a homogeneous or finely granular protoplasmic mass presenting the appearance of coagulation necrosis. Now and then a few very fairly well preserved renal cells and an occasional glomerulus in a state of complete fibrosis are observed in the advance from capsule to locality just mentioned. No perfect tubules or glomeruli could be detected in any portion of the sections examined. Had the sections not been knowingly taken from the kidney, it would have been almost an impossibility to determine their origin.